

# **Second California Solar Initiative (CSI) Forum Minutes**

## **CTAC Commercial Center, Irwindale, CA**

### **June 29, 2007**

**Attendees:** List Attached

The California Public Utilities Commission (CPUC) established a quarterly public Solar Forum in the August 24, 2006 Decision (D. 06-08-028) to identify and discuss issues related to California Solar Initiative (CSI) program administration and implementation. The goal of the meetings is to have a solutions-oriented discussion of handbook implementation concerns.

On April 2, 2007, Pacific Gas and Electric (PG&E) hosted the first public Solar Forum in San Francisco. Forum participants gave Program Administrators numerous suggestions for program simplification and enhancements. The Program Administrators responded to these suggestions by filing two advice letters in June on non-PV technologies and slowing down of non-residential dropout rates. The PAs also drafted a set of administrative changes that simplified the CSI application process. These updates were presented in detail under Agenda item #4 "What's New and What's Changing?"

## **1. Program Statistics – Sara Birmingham, Pacific Gas & Electric**

PAs presented CSI program statistics to date, including applications received by month, by territory, be residential versus non-residential and EPBB versus PBI.

Presentation can be found here:

[http://www.cpuc.ca.gov/static/energy/solar/csi+forum+june07pas.pps#271,2,CSI Statistics](http://www.cpuc.ca.gov/static/energy/solar/csi+forum+june07pas.pps#271,2,CSI+Statistics)

### **1.1 Questions from Stakeholders**

Stakeholder: How many of the projects are low income?

- ❖ PAs: Program Administrators and CPUC are currently coming up with low-income solar programs. CPUC is developing a proposal for an incentive program for single-family owner-occupied homes. CPUC tasked the Program Administrators to develop a proposal for multi-family buildings.

*Update: On July 14, the PAs submitted a Joint Proposal Recommending a Low Income Multifamily Solar Program. The CPUC Energy Division held a public workshop on August 15 to review the Joint Proposal. In October, Commissioner Peevey issued a proposed decision on establishing a Single-Family Low Income Incentive Program within the CSI.*

## **2. Inspection Results – Howard Green, Southern California Edison**

Presentation on Inspection Results can be found here:

[http://www.cpuc.ca.gov/static/energy/solar/csi+forum+june07pas.pps#270,8,CSI Inspection Results](http://www.cpuc.ca.gov/static/energy/solar/csi+forum+june07pas.pps#270,8,CSI%20Inspection%20Results)

### **2.1 Questions from Stakeholders**

Stakeholder: What kind of shading device do you use in inspections?

- ❖ PAs: The Program Administrators are technology-neutral. California Center for Sustainable Energy (CCSE) has been using Solar Pathfinder and Suneye.

Stakeholder: How did Program Administrators come up with 1 in 7 random sampling for inspections? Is it 1 in 7 for each installer or 1 in 7 for the entire group?

- ❖ PAs: The Program Administrators will clarify that in the inspection guidelines. The 1 in 7 is based on the standard used in the SPC program. The Guidelines are on the PA web-sites.

Stakeholder: Can solar installers inspect systems for CSI?

- ❖ SCE: The inspectors must be an independent party. SCE went out to competitive bidding to solicit inspectors for the CSI program.

### **2.2 Recommendations from Stakeholders**

In the comment session, Solar Forum participants provided the following suggestions to the PAs on inspection:

- ❖ Allow ranges for tilt angle inspection, eg. check boxes for 10-30 degrees.
- ❖ Conduct more detailed inspector training.
- ❖ Require periodic re-certification for inspectors.
- ❖ Investigate complains; otherwise, it is not fair for the installers.
- ❖ Allow recourse for installers, in case an inspector is not capable.
- ❖ If Performance Based Incentives (PBI) systems are going to be inspected, then lessen requirements of PBI, eg. 5% meters instead of 2% meters
- ❖ CPUC response: That requires a petition to modify the metering requirements of D.06-08-028. (In July, the CPUC approved D.07-07-028, in which it reaffirmed PBI metering requirements.)
- ❖ Installers want written guidelines for shading, so they know exactly what the inspectors are looking for.

*PAs Action Item: Program Administrators will post inspection forms and checklist on their web site including any changes.*

### **2.3 Other Stakeholders Comments on Inspection**

Stakeholder: An SCE inspector went out to the site with the original application even though the system had undergone system changes.

- ❖ SCE: The SCE inspector should have the latest system change form with them when they do inspections.

### **3. SCE Senior Management Welcome to Group**

Senior SCE manager welcomed participants and thanked them for their active involvement in the CSI Program.

### **4. What's New and What's Changing?**

Presentations for this section can be found [here](http://www.cpuc.ca.gov/static/energy/solar/csi+forum+june07pas.pps#272,10,What's New and What's Changing) unless otherwise noted:  
<http://www.cpuc.ca.gov/static/energy/solar/csi+forum+june07pas.pps#272,10,What's New and What's Changing>

#### **4.1 New Regulatory Activities – Polly Shaw, CPUC**

The Program Administrators filed two Advice Letters with the Energy Division in June regarding non-PV technology incentives and methods to slow non-residential dropout rates. The Advice Letters are under CPUC review.

On June 7, in D07-16-014, CPUC clarified that TOU tariffs are optional for CSI applicants until the Commission develops and makes effective TOU tariffs that meet the requirements of Section 2851(a)(4) of Public Utilities Code. Customers who have switched to TOU have the option to return to pre-solar rates.

On June 26, the CPUC issued a proposed decision to modify D06-08-028, such that systems receiving EPBB incentives require meters with accuracy within +/- 5%, and systems receive PBI incentives require meters with accuracy within +/- 2%. The proposed decision also removed cost caps for PBI meters.

In addressing BIPV systems, the CPUC was unable to conclude that an accurate system rating was available to enable calculation of the upfront payment incentive and, accordingly, these systems were limited to PBI incentive payments. CPUC and California Energy Commission discussed potential solutions.

*Update: On July 13, the CPUC issued a proposed decision to include Building Integrated Photovoltaic (BIPV) systems with other photovoltaic systems that receive incentive payments based on expected performance, rather than based on actual installed performance. Newly-available performance information from the California Energy Commission (CEC) enables the CPUC accurately calculates the upfront incentives for BIPV systems.*

CPUC's presentation can be found here:

[http://www.cpuc.ca.gov/static/energy/solar/shaw\\_forum\\_csi\\_june\\_regy+updates.pps](http://www.cpuc.ca.gov/static/energy/solar/shaw_forum_csi_june_regy+updates.pps)

## **4.2 TOU Update – Rob Thomas, SCE**

On June 7, Governor signed Assembly Bill 1714:

- ❖ Customers are not required to be on a Time-of-Use (TOU) rate to participate in CSI at this time.
- ❖ They may choose to be placed on a TOU rate or stay on their present rate.

If a customer has already changed to TOU to comply with CSI requirements, they can switch back and their account will be adjusted.

The CPUC issued a decision on June 7:

- ❖ CSI customers may choose to remain on their TOU rate, or return to their pre-CSI rate.
- ❖ Within 150 days the Utilities must send letter to the Commission indicating that all affected customers have been notified and received.

### **4.2.1 Questions from Stakeholders**

Stakeholder: Are there tools available to help customers select which rate is most effective for them?

- ❖ CCSE: We have a spreadsheet tool available by request. It is a 12-tab Excel spreadsheet that models the rates.
- ❖ SCE: SCE is currently developing a tool that is area-specific, but has some generalizations and assumptions. It is difficult to develop a tool that is customized for all projects.
- ❖ Stakeholder comment: There are models in the commercial market that model home usage economics.

SCE question: Is it the role of the utilities to provide tools for the market to sell its products? Or is it a market function to develop this tool to sell to all of the installers?

- ❖ Stakeholder: We just need a generic model

SCE question: What are the variables needed in the model?

- ❖ Stakeholder: Weekday and weekend; winter and summer.
- ❖ Stakeholder comment: Try <http://www.pvoptimize.com/>
- ❖ Installer recommendation: It is up to the industry to make that tool, but we need assistance in developing load profiles such that we can model hour-by-hour energy usage by customers. Program Administrators should provide raw data by geographic zones.

Stakeholder: How many customers got stuck with the Time-Of-Use (TOU) rates?

- ❖ SCE: SCE has eight residential customers. SCE will do re-bill analysis for TOU customers who want to switch back to their old rate.
- ❖ PG&E: We have sent letters to all applicants and have no response about switching.
- ❖ CCSE: Many CCSE customers are staying with the TOU rate.

Stakeholder: Are there charges for TOU meter? And who pays for them?

- ❖ SCE: SCE does not charge an incremental cost for TOU meters. The cost of the meter is already built in the rates. SDG&E charges a monthly fee for TOU meter. The fee was established prior to CSI.

Stakeholder: A customer had his meter switched four times for TOU and net metering without getting any warning from SCE. Is there a notification process?

- ❖ SCE response: Under normal conditions, SCE will install or exchange a meter without a customer/owner being at home or present on-site, based on instructions by a customer, under programs such as Net Metering, CSI, etc.

Residential Installer: After the ratemaking, do customers have to use the TOU rate?

- ❖ CPUC response: SB1 was clear that CSI participants have to use TOU. The CPUC June 7th Decision (D.07-06-014) outlines that it will be mandatory for all new applications to use TOU rates after new rates are put into effect. However, before the rates are developed, TOU is optional for customers. And the new rates won't retroactively apply to current participants.

*Update: SB 1 requires all solar incentive recipients to go on TOU rates. An unintended consequence of this legal requirement was that a number of solar customers in desert climates, who have high peak demand, would have higher electricity bills after installing solar than on "flat" electricity rates without solar. On June 6, 2007, the Governor signed AB 1714, an emergency bill which delays the TOU requirement until the next General Rate Case establishes new electricity rates. On June 7, 2007, the CPUC approved D.07-06-014 with the same purpose.*

Installer: Will 2007-2008 CSI installations be grandfathered into current customer rates or do they have to switch over to TOU?

- ❖ CPUC: In the CPUC June 7th 2007 Decision (D.07-06-014) it states that customers under 2007-2008 don't need to switch over.

Stakeholder: Will there be multiple TOU tariffs?

- ❖ CPUC: That will be brought up in the public ratemaking process.

Stakeholder: Will everyone adopt the same TOU rate?

- ❖ CPUC: Each utility will have different TOU rates.

Stakeholder: Customers should be able to keep the option of choosing their rates [even after the establishment of solar-friendly TOU rates]. Customers should not be imposed a tariff.

- ❖ CPUC: The requirement to go on Time-of-Use (TOU) rates is a state law. However, customers may be eligible to opt between available TOU rates.

#### **4.2.2 Comments on Solar-friendly rates**

Stakeholder: There needs to be solar-friendly commercial rates that substantially reduce demand charges.

Stakeholder: Investor-Owned Utilities (IOUs) should collect TOU rates in the next two years to come up with solar friendly TOU rates.

#### **4.3 Building Integrated PV (BIPV)**

Stakeholder: Why can't BIPV use Expected Performance Based Buydown (EPBB)?

- ❖ PAs: CEC hasn't determined temperature rating on performance effect. Proposed decision will be coming this summer.

*Update: In July, the Commission adopted D.07-08-007 which approves BIPV products for the incentive program based on the fact that the Commission now has satisfactory data to use in modifying the incentive calculator.*

Stakeholder: If BIPV will be eligible for EPBB, is it retroactive for systems already installed?

- ❖ CPUC: No

Stakeholder: Is the EPBB calculation formula available?

- ❖ PA: The source code is on the EPBB website.

#### **4.4 Handbook Changes**

The program administrators took suggestions from the public and proposed a set of changes to the Handbook to simplify the application process, including removing all insurance requirements beyond those required for interconnection, waiving some documentation for smaller systems, and allowing self-installations to receive the California Solar Initiative incentive.

*Update: The Program Administrators' changes were well received by the solar community. As a result, the Program Administrators jointly filed Advice Letters on July 14, 2007 to the Energy Division with the proposed Handbook*

*changes. On September 6, 2007, the CPUC approved the proposed changes and released a revised CSI Handbook on September 21, 2007.*

[CALSEIA discussed handbook comments from their handout]

Stakeholder: Why do we need to submit interconnection letter to Program Administrators if the letter was generated by the utility?

❖ PA: This is no longer required by the CSI Program.

Stakeholder: Can SCE copy the letter to the installer?

❖ SCE: We might be able to E-mail that out.

Stakeholder: Can contractors (installers) be copied on all relevant customer correspondents with the Program Administrators?

❖ PG&E: Yes, the letters are being sent to the installers.

Stakeholder: Can there be a box in the application to fill in the net metering number, so installers don't need to submit letters?

❖ SCE: Program Administrators should be able to check it internally. At the time SCE advises the customer that the system is ready for turn on, SCE will give you the net metering number.

Stakeholder: What is the ratio of Performance Monitoring & Reporting Service (PMRS) vs. cost cap exemption?

❖ CCSE: PMRS providers have increased. Program Administrators can't determine that PMRS is not cost-effective because we received only one cost cap from a provider. Some applications are getting PMRS even though they're eligible for cost cap exemption.

Stakeholder comment: The standard warning language from the utility Interconnection Letter causes concerns from our customers.

❖ PA: Program Administrators will look into revising the language.

Stakeholder Comment: In the Step 2 paperwork (<10kW), Program Administrators require us to submit a Final Project Cost spreadsheet. The cost breakdown is mostly estimates; installers usually just get a lump sum that includes everything. Our customers are not comfortable with the attestation to the cost form.

❖ PG&E: The breakdown of equipment cost is required so that we can track the cost trends of individual equipment. This is consistence with our program objective of bringing the cost of solar down.

Stakeholder: Is there a regular schedule for submitting Advice Letters?

❖ CPUC: No. Per D-06-08-028, the Program Forums are the venue for finding consensus around issues and solutions. As consensus emerges, the Program Administrators can submit an Advise Letter. The CPUC aims

for the program handbook to change no more than twice per year in order to decrease confusion in the market. The handbook will not change more than two times a year.

#### **4.5 Project Drop Outs**

Stakeholder Comment: I suggest the PAs evaluate the reason for dropouts to come up with a “bad installer list” for installers who have superseded a minimum percentage of dropouts.

Stakeholder Comment: I disagree because that will discourage the customers to apply and learn from their experience

❖ CPUC response: CPUC will monitor the rate and source of drop-outs.

*Update: PG&E’s July 23, 2007 Advice Letter #3087-EB recommended holding a public workshop in September or October to review the drop-outs. The CPUC may ask PG&E to follow through with this suggestion.*

### **5. Demonstration of Online System and Status Update – Ron Ishii**

Stakeholder: Does the EPBB tool and online tool match?

❖ PA: Yes, except for inverter average.

Stakeholder: How is shading integrated in the application tool?

❖ Ishii: The EPBB tool includes the shading factor. Eventually the application tool will be integrated with the EPBB tool.

Stakeholder: Can customers change who they want to receive payment?

❖ Ishii: It is possible to change payee. It has to go through the Program Administrators who need to receive paperwork from both the payee and the customer.

Stakeholder: Is the application tool hosted on the same server as the EPBB?

❖ Ishii: It’s run with programs from other states. We have an up-time of 99.8%.

Stakeholder: Are the forms different for each utility?

❖ Ishii: Each of the utility forms might be slightly different, but it’s automatically done for you.

Stakeholder: Is application tool going to streamline the process? Or will it be another thing above the regular paperwork?



- ❖ Ishii: The tool eventually will replace the current paper forms. Presently it streamlines the process and supplements the items needing original signatures.

Stakeholder: Can SCE get the Proof of Homeowners' Efficiency Survey internally?

- ❖ SCE: SCE will look into it.
- ❖ CCSE has to get a copy because they don't have the SDG&E data.

Stakeholder: Is CCSE the best candidate to administer this? Is SDG&E cooperating?

- ❖ CCSE: CCSE cooperates well with SDG&E. We have reports that pass back and forth between CCSE and SDG&E. There are no issues with getting documentations.

Stakeholder: Does CCSE get the Interconnection Application?

- ❖ CCSE: CCSE gets a copy of the Interconnection Application and a printout of the energy efficiency audit.

Stakeholder: What is the Admin Tab in the tool?

- ❖ Ishii: In the future, we can upload documents onto the application and sign the forms electronically. The only thing that needs to be sent in is the contract.

Stakeholder: Are Program Administrators going to link information back to the power (kW) that the system puts out?

- ❖ Ishii: Program Administrators get meter reading data back from the meter readers to put in a database. That database will communicate monthly data and link to this tool.

Stakeholder: Can the customer edit the application once it is submitted?

- ❖ Ishii: The customer can edit it before you mail in the application. After you mail in the application, you'll have to ask the Program administrator to change it.

Stakeholder: Can installer reassign the applicant?

- ❖ Ishii: The Program Administrator needs to get back to you on this.

Installer Comment: I'm concerned that if you take out the signature requirement from Host Customers and System Owner in the 3-step, then drop-out rates would be off the charts. I hope you continue to require it.

Stakeholder: Will there be places to write in comments on the online database application?

- ❖ Ishii: Yes, there are comment boxes.

Installer: If the rebate does not go to the Applicant, I hope it is not mandatory for them to fill in the field for social security number.

- ❖ Ishii: It is not. It is only required for payees.

Stakeholder: How are the applications handled for the situations below?

1. Two separate strings with two orientations on single inverter.
  2. A uniform array with multiple inverters.
- ❖ Ishii: For two strings on a single inverter, the installer will be averaging the two arrays. The EPBB doesn't take multiple arrays. You'll enter the first array for Design Factor (DF) and then the other to get an average DF. If there are two inverters, then you apply the average over the entire system. Analysis shows that there's less than 1% error with this estimation.

Stakeholder: How can we find out about installer training?

- ❖ PA: They'll be posted on the Program Administrators website
- ❖ SCE will host the next one on July 18.

## **6. Shading Subcommittee – John Supp, California Center for Sustainable Energy**

Shading affects system performance; therefore it should affect the CSI rebates. In the long term, we'll transition to PBI; but since we are still using EPBB now, shading measurement is important. Winter shades have no effect on the EPBB rebates. In the EPBB tool user guide (section 7), there is a minimum shading definition: it is not minimum shading if the shading object is closer to the PV array than twice the height of the object. If you don't have minimum shading, then the month by month shade impact has to be filled out on the EPBB tool.

[John Supp explained how to enter multi-arrays in the EPBB tool]

A subcommittee will be formed with industry experts to refine the shading impact analysis. The goal is to put together a proposal by August 15, 2007. Please contact John Supp, Program manager of CSI at CCSE if interested in participating.

Presentation can be found here:

<http://www.cpuc.ca.gov/static/energy/solar/csi+forum+june07pas.pps#280,22,Shading Subcommittee>

Stakeholder: Which 6 months are counted as summer?

- ❖ CCSE: Between April – November depending on utility. For SDG&E territory, it's May to October.

Stakeholder: Do we have to submit the shading analysis with incentive claim?

- ❖ CCSE: If anything has changed since the reservation, then you have to provide further documentations. If nothing has changed, then no.

Stakeholder: If there's a house with multiple arrays, which one do you have to submit shade impact for?

- ❖ CCSE: Presentation slides show information on shading impact for multiple arrays. Program Administrators only need the end result of your input from the EPBB calculator. The Program Administrator does not need pathfinder shots. If the panels do not satisfy the minimum shading requirement, then you take shading measurements. If it says 97%, we want you to tell us it's 97% instead of rounding it up to 100%.

Stakeholder: What if the system produces more than we expected during peak hours, but there is shading early morning or late evening? Will our rebate gets dinged for that.

- ❖ CCSE: This is a simplified shade impact study. Real shade impact is actually more impactful than if you look at individual string, because when 1 panel is shaded, the entire string goes down. However, we don't require the measurement of real shade impact or shade impact on individual string impact. For now, the metric protects everyone; we might increase the standard in the future. We will further discuss in the subcommittee.
- ❖ We're talking to the tool manufacturers, to raise tolerance on the tool to account for shade impacts for objects more than 15 degrees above the horizon so it doesn't include morning shade or late afternoon shades.

Stakeholder: How about shading of powering lines?

- ❖ CCSE: The Program Administrator does not know of any tools out there that can answer that. It does not affect the rebate if we can't detect it. This, however, doesn't answer what is the impact for the customers.

Stakeholder: Do inspectors look at different kind of trees?

- ❖ CCSE: No tool is precise enough for that.

Stakeholder: Does the azimuth count? Eg. Shade impact at 8am for southeast-facing array is more than that of southwest-facing array.

- ❖ CCSE: The shade impact tools don't account for that. For EPBB tool, we're releasing the source code such that stakeholders can help us figure out how that can be accounted for.

Stakeholder: We don't have a proper tool that makes proper site analysis to determine whether a roof is a good solar roof.

- ❖ CCSE: A responsible installer should walk away from a poor solar site. However, we can't prevent that on the program side if they don't, the program is not going to fix that with the contractors. Maybe we need to get consumers more involved, to get customers to see the shade analysis. On the program side, if the system availability is lower, then the rebate is lower.

Stakeholder: What if the host says they will trim the tree? How do we correct the rebate application?

- ❖ CCSE: Communicate with the Program Administrator. You can use a commercially-available tool that can scrub shade objects. I encourage you to submit the scrubbed shade impact with your incentive claim.

Stakeholder suggestion: The contractor can have the customers sign a contract that states they will trim the tree before the contractor submits their paperwork.

Stakeholder: Solmetrics does not have daylight savings time built in. You have to account for a 6pm shade being actually a 7pm shade.

- ❖ CCSE: We're in contact with manufacturers about how to better integrate their tools with the program.

Stakeholder: If you have 4pm shading in the summer and 5pm in the winter? How do you want us to submit that?

- ❖ CCSE: We've been accepting the raw data un-corrected, the overall impact is relatively minor.

Phone Stakeholder: I'm uncomfortable with the judgment of a contractor who puts a system on a heavily shaded roof is deemed irresponsible. If I have 40% shading (factor on my house), but I would not have a house that doesn't have a solar system, that's my choice (to install solar). As long as EPBB doesn't pay for more than 40% production, then that's fair

- ❖ CCSE: It only matters whether the reported shading is accurate. The Program Administrators are seeing 95% applications with 0 shade impact—and that sounds dubious. If the measured shading is small, eg. 98%, then you should report 98%.

Stakeholder: I don't understand why we're not calculating winter shades to be more accurate. I understand it's a benefit to customers, but I prefer accuracy.

- ❖ CPUC: Per the CPUC decision, the incentive is based on optimized for summer production. It's a policy call by the CPUC. You can contact us if you want to discuss offline about this decision.

Solmetric: The Suneye correctly accounts for azimuth in the shading measurement. The annual sunpath does not account for daylight savings, but it is irrelevant to entering shading impact in the EPBB calculator. The EPBB does not take into the account Time of Day when shading will occur. I understand there're a lot of improvements to be made. We're directly working with Suneye to make minimal shading boundary to make things easier for installers.

Phone Stakeholder: Why are all systems being inspected for azimuths of 305-55 degrees, even though the sunpaths get in the sky for 286 degrees?

- ❖ CCSE: I'm not aware of this numerical requirement to inspect azimuths of 305-55 degrees. This is something I'm interested to hear more about. There'll be quality control in part of the inspection process; if the inspection report doesn't look accurate, we'll follow up with the inspectors. We'll incorporate that into the subcommittee work as well.

## 7. Energy Efficiency Requirements – Polly Shaw, CPUC

*Update: CPUC provided the background for energy efficiency requirements in the CSI incentive program. The state has a long history as a leader of energy efficiency and renewable energy policies. Moreover, with the passage of the Global Warming Solutions Act of 2006, the state is moving ahead with aggressive climate protection policies that can protect our environment at an economic advantage to state residents. In 2004, the state agencies established the Energy Action Plan with a "Loading Order" for procuring new power. In it, the state allows energy service providers to first procure energy through energy efficiency, then demand side management programs, then renewable portfolio standards and distributed clean energy generation, before utilities can obtain energy from the cleanest available fossil-fired power.*

*Senate Bill 1 reinforced the combination of energy efficiency and solar incentives. Currently, the CPUC requires an energy efficiency audit before obtaining the incentive in order to expose for the consumer where other improvements to the building can help the return on the solar investment. However, SB1 directs the California Energy Commission to develop cost-effective energy efficiency requirements as a condition of receiving future incentives. It is not clear what the requirements will be or when they will go into effect. To learn more, monitor the California Energy Commission's SB1 Conditions and Eligibility Requirements for CSI incentives and attend their workshops as they propose the future requirements. The CPUC is not in charge of these requirements.*

Stakeholder: Why does the solar industry need to take the responsibility to improve California's energy efficiency? Why is it not a statewide responsibility for every house to improve energy efficiency? It's bad for the solar installer if the money is spent on energy efficiency instead of solar.

- ❖ CPUC: We already have very tight codes and standards that deal with energy efficiency for new and existing housing. The Program Administrators have Energy Efficiency programs already, for example, the existing housing incentives of \$2 billions. Energy efficiency is our first priority. You need to talk to your legislator why SB1 is written the way it is.

We don't have requirements yet, but SB1 says reasonable and cost-effective energy efficiency measures.

Stakeholder: Most people doing solar have already done energy efficiency. What is the intent of asking them to do more?

- ❖ CPUC: I'm not going to speak for the legislature on that, but I think the intent is to improve rate of return on investment. If the solar industry has best practices and data on Energy Efficiency done before solar installation, and as part of the service plan, then the CPUC would love to have it.

Stakeholder: If a customer has already done energy efficiency, they don't have to do further before getting solar?

- ❖ CPUC: Since we don't have the requirements developed yet, I can't answer this question, but it'll be good to bring into the debate to determine who would be exempted. For example, right now, we have an exemption if you have a Title-24 certificate within the last 3 years.

Stakeholder: How can we stay on top of the development on Energy Efficiency Guidelines?

- ❖ There are 2 routes: We will send notices to our parties in our proceeding. To be a party, you can go to the CPUC website. Or you can visit [www.Gosolar.ca.gov](http://www.Gosolar.ca.gov), the more consumer-oriented website.

Stakeholder (phone): What is the timeline for Energy Efficiency? Is it realistic to have guidelines in place by January 2008?

- ❖ CPUC: I can't speak for the CEC for the timeframe. But CPUC will look at what it takes to conform to the state law by January 2008. There might be 2 stages of implementation. We'll have to get back to folks on this.

Stakeholder: We're not energy efficiency experts. Now we're put into the position to do energy efficiency, but there aren't many energy efficiency providers to begin with. There is a lack of resources to implement efficiency measures. Is there any action taken to increase Energy Efficiency providers?

- ❖ CPUC: I hope we can talk about this more in the CEC energy efficiency workshop.

Stakeholder comment: [Regarding the loading order], I don't think the government should determine consumption priorities for customers. If we want to buy solar before energy efficiency, we should be allowed to do that.

Stakeholder comment: If guidelines come out last minute, we won't be able to secure rebate before the Energy Efficiency measures are completed. We need to see these ahead of time to get our customers started to carry out these energy efficiency requirements. This is going to have a huge impact on securing rebates if we have to wait until we have the efficiency measures installed.

Stakeholder: Are there incentives available at SCE for geothermal pumps systems replacing conventional HVAC systems?

- ❖ SCE: Yes, there are (8 cents/kWh saved). On our website under the Standard Performance Contract program; you need to calculate current system and new system kWh; the rebate is savings for next year times 8 cents/kWh.

## **8. Open Comments and Discussions**

The open comments and discussion period was led by the meeting facilitator. Sue Kately of CALSEIA talked about the paper she handed out at the Solar Forum. CALSEIA put together a list of most important issues that are compiled from industry participants. They did a survey of their membership recently on how the CSI implementation is going. Preliminary results are as follows:

- ❖ Cost of doing business has gone up; the number of sales calls required to make sales has increased.
- ❖ A majority of respondents reported that the CSI program is negatively affecting the cash flow of their business
- ❖ Material cost has increased: copper, fuel, metals labor, insurance etc. It takes \$1000-2500 to complete an application form
- ❖ Permitting comments are pretty mixed.
- ❖ 10-year Warranty cost increased the cost of doing business
- ❖ Sales price will increase
- ❖ 75% of their members stated the program will not lead to sustainable solar industry; that is, in a scale of 1-10, 75% of respondents gave an answer of less than 5.

CALSEIA urged Solar Forum participants to participate in the CPUC proceeding and CEC workshops. Small installers, that don't have a regulatory department, can join an association to stay connected.

Stakeholder: Did you ask in your survey what would create a sustainable solar market?

- ❖ CALSEIA: [Holding up the CALSEIA handout] Yes, we're constantly putting suggestions on the table. The process is awkward in implementing the repairs, because it starts with an advice letter, followed by a 30-day comment period, etc. It takes some time.
- ❖ CPUC: We want to go as fast as possible, but we also want the public to have sufficient time to respond to PAs suggestions, and hence the 30 day comment period.

Installer: It (Solar Market) has been a moving target with so many things changing continuously and that's not sustainable.

[If a discussion under "Open Comments and Discussion" is a continuation of a previous discussion at the Solar Forum, the notes are moved to that respective section to provide better continuity]

## 8.1 MW Trigger

Stakeholder Comment: Triggers are based on the application approval instead of installation; they are dropping out too fast artificially. I suggest Program Administrators to take a historical drop-out rate into account, eg. 40% and overshoot each trigger by 40%.

- ❖ PG&E: Program Administrators have historical SGIP data on drop outs. We'll have workshops to address this. One issue I see is that SGIP is very different from CSI, SGIP run out of money really quickly and have to wait for the next budget cycle to augment funds again. We're not sure if the drop out trends will carry forward to the CSI program.

Stakeholder: There'll always be dropouts; we'll try to take that into account. You probably won't get the data until a year from now, after the rebate has dropped a few different levels. What are you going to do to backtrack at that point?

Stakeholder (phone): Does the trigger tracker break down non-profit or government from other non-residential applicants?

- ❖ CPUC: Non-profit and government are grouped with commercial as non-residential.

Stakeholder: Can you give us certainty in dates to provide guaranteed rebates?

- ❖ PAs: No.

## 8.2 Host Cap

Stakeholder: In San Diego, there were 15 jobs dropped in one day, \$18.7 million, there could be very large dropouts. All their specs are the same, so they are probably a multi-host site. This is another reason to reinstate the host cap.

SCE suggestion: It's about the reservation of funding. We had similar applications process in energy efficiency. After many different variations, we eliminated the reservation step entirely. How about going to the PPA as the first step after you get a signed contract?

- ❖ Stakeholder: Government or other organizations might not be able to provide the contract upfront.

Stakeholder comment: There's a list of things that can help the program be more sustainable. When someone mentioned the industry stopped on January 1<sup>st</sup> 2007, the industry actually had two different feelings. Residential has a tough time because of the program changes from the CEC program. Commercial side looks like it's going well since January 1<sup>st</sup> 2007. However, we don't know who has applied for the rebates and whether they'll drop out. SPG Solar proposes to establish a cap that was in the old SGIP program (1.5MW per step per year) to



be placed on host customer or majority owned affiliates. The CALSEIA board overwhelmingly approved that.

Stakeholder: Due to the multiple host dropouts, can we reinstate the cap?

- ❖ SCE: To prevent dropouts, SCE is requiring contractual agreement upfront or RFP for non-profit or government entities.

Stakeholder: Is it possible to put host customer cap in place?

- ❖ PG&E: Program Administrators want funding to be dispersed to many different customers. In 2003, the cap was removed because we had a few large customers like Cal State University. Each school tries to beat each other out, so it has been eliminated. The goal of the program is to install 3,000 MW of solar, increase manufacturing capacity and eventually decrease cost.

CPUC question: What is the problem that reinserting a host cap tries to solve? Is it dropouts or one firm getting all the rebates?

- ❖ Installer: CSI is paid by all customers. If a big corporation takes up all the MW, then it is not going to be sustainable.

CPUC: Let's have a workshop about dropouts. We really want to look into whether there's a risk about large potential dropouts.

CPUC question: The program is intended to reflect market competition. Do we want to set quotas? You have as much of a chance to get the application in as the next person who wants to get in line.

- ❖ Stakeholder: This is not a free market, it's a subsidized market. You don't want one customer to take all. If there are only two companies in the program, it's not going to be sustainable.

CPUC question: The market is broken out by residential, non-residential, government and non-profit. You can't steal from the other segment. Are there really only two companies in the program, or is there a fear of only two companies?

- ❖ Large installer: Is the goal of the program to achieve MW or equity? The program only benefits a small fraction of ratepayers anyway regardless of how much you spread it. Everyone benefits from any projects, big or small. If WalMart or Target comes in and lock up a big project, it'll set an example for others, drive down the cost and people can learn to install the system. We decided on a MW cap instead of calendar based because we want this to be market driven.
- ❖ Installer: These early opportunities might not build a sustainable industry. Japan took ten years to reduce system cost by 50%. They still don't have a sustainable industry. Early opportunities are driving us now, but are we building a sustainable industry?

- ❖ Manufacturer: You cannot stay in the business or build up an organization if the rebates go down too quickly. It takes time to build a sustainable market.
- ❖ CALSEIA: Many of our members feel very strongly about the host cap, including some smaller installers who're not here right now.

Stakeholder comment: CSI currently groups public sector with commercial. If one sector gets more MW, then in the future, we can segment out these hard to reach sectors, similar to the energy efficiency programs. The program should closely monitor the impact of large private sector demand on the incentives for non-profit entities. If it becomes clear that non-profit demand is suffering and the large private sector is receiving a lot of positive feedback loops, then the program should consider breaking apart these customer classes into separate steps. We maybe developing a sustainable large customer market, but we might end up needing a lot of niche suppliers to serve the hard to reach sectors.

Stakeholder comment: Fundamentally, setting a host cap is unfair to companies that are very large. Whenever someone takes \$1 from the program, they have to put in \$2-\$3. I think the concern is that when you get down to Step 5 or 6, which might happen in the next 12 months, you won't get much any more activities. I don't think host cap can solve this problem.

Phone Comment: We need some way to segment the market a little more aggressively. Maybe the cap is not the best mechanism. Rather than having a couple of big solar companies, it is more sustainable to have more companies. That is because after a few years when the incentives are used up in California, these big companies will leave California and go elsewhere.

### **8.3 Rebate Level**

Stakeholder: When does the rebate level become effective - at application or completion of the project?

- ❖ PAs: Acceptance of Application gives you a Conditional Reservation Letter for rebate level at the time of acceptance.
- ❖ Ishii: This would be the Confirmed Application Stage on the online database.

### **8.4 Billing Data**

Stakeholder: Why do installers need to give Program Administrators billing history? Can the utility access customer kWh history internally?

- ❖ PG&E: No, because of customer confidentiality issue. However, the customer can sign a release form to authorize utilities to give out data of your electricity usage. Or the Program Administrator can ask customers to

log into their account, export the data and send that to the Program Administrator.

- ❖ SDG&E: SDG&E customers can get their billing data without personal information from Energy Waves:  
<https://paladin.sdge.com/energywave/cfm/about.cfm>

## **8.5 Price Data**

Stakeholder Comment: I suggest that the System Cost Sheet only asks for \$/Watt and not necessarily how the materials break out.

- ❖ PAs: The public can go to the Program Administrator's website to find out costs of systems, eg. high, low, and average. This will help inform customers with their purchase decisions.
- ❖ CPUC: One of the purposes of the database was to allow customers to check their bid price and review that against others in their zip code for the same type of installation.

Stakeholder comment: The information in the online database reports will put small installers in direct competition with big installers. There are fundamental differences between large and small installations and the differences might not be apparent to the customers.

- ❖ CCSE: The database lists the costs, size, and type of installation in order to help customers understand the differences.

## **8.6 Other Questions or Comments**

Stakeholder: Who is Elena?

SCE: Elena is with KEMA who was hired by the Program Administrators to facilitate the Solar Forum.

Stakeholder suggestion: Replacing express mail to lower cost carriers (eg. first class postage, fax or paperless) can save ~\$40,000 in ratepayer's money.

- ❖ Some utilities use e-mail, others uses faxes or overnight mail
- ❖ Ishii: The online application system would digitize much of the application process. For the 2-step, there're only 2 emails that confirm reservation and payment is pending. In the 3-step process, you also get one when the milestone is complete.

Installer: Why does the financial burden of servicing the 10-year manufacturer warranty fall on the installer? The manufacturer should be servicing it, not the installer.

## **9. Next Steps and Closing –**

The facilitator closed the meeting by listing out next steps and reminders for the Solar Forum participants

## **9.1 Next steps:**

- ❖ PAs will conduct more inspector trainings
- ❖ PAs will publish inspection guidelines
- ❖ PAs will post inspection forms and checklist on their web site including any changes
- ❖ PAs will clarify how they pick the sites for inspection
- ❖ CPUC staff will look into reasons for dropouts and conduct a workshop on this topic
- ❖ PAs will look into getting interconnection and online energy efficiency audit documentation to flow internally within the utility
- ❖ PAs will look into copying installers on all communications with customers
- ❖ PAs will look into re-wording the language in the standard letter from utilities to customers
- ❖ PAs will look at ways to deal with concerns regarding the project cost breakdown worksheet
- ❖ PAs to post the Solar Forum slides and notes online
- ❖ CPUC staff will review warranty issue
- ❖ Sue Kately of CALSEIA will send out survey results

## **9.2 Reminders**

- ❖ Stakeholders can become a party of the proceeding and comment on the 2 advice letters
- ❖ Contact John Supp if you want to participate in the Shading Subcommittee (Contact info is at [energycenter.org](http://energycenter.org))
- ❖ Check out dates for the Energy Efficiency workshops on CPUC website